



Applicant : Perry Philp et al
Appl. No : 10/654,956
Filed : September 5, 2003
Title : REINFORCING NET

Grp./A.U. : 1771
Examiner : Matthew D. MATZEK

Docket No. : 213-043/HRH
Customer No.: 0010159

Date: Nov 17, 2006

The Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
U.S.A.

DECLARATION UNDER 37 C.F.R. 1.131

We, PERRY PHILP, ROGER LEGG, SEBASTIAN DANIEL and BRIAN GORDON, declare and state as follows:

1. We are co-inventors named in the application identified above.
2. Prior to March 2003, the invention as disclosed and claimed in this application was conceived and reduced to actual practise in Canada.
3. As Exhibits to this declaration are enclosed a series of digital photographs A-1 through A-14 of a prototype machine embodying the invention claimed in this application. The prototype machine was made in our company's facility. The machine was tested and the digital photographs attached were made before March 2003.

4. Also enclosed is a document entitled Summary of Invention, B-1, and a series of diagrams identified as B-2 through B-5, all made before March 2003 illustrating various embodiments of the invention.

We jointly and individually declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of the Title 18, U.S. Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



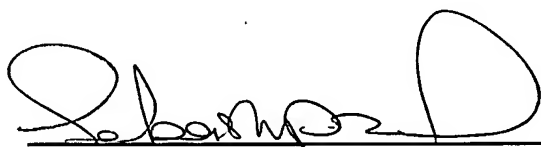
PERRY PHILP

Date: 17 Nov 2006



ROGER LEGG

Date: 16 Nov 2006



SEBASTIAN DANIEL

Date: 17 Nov 2006

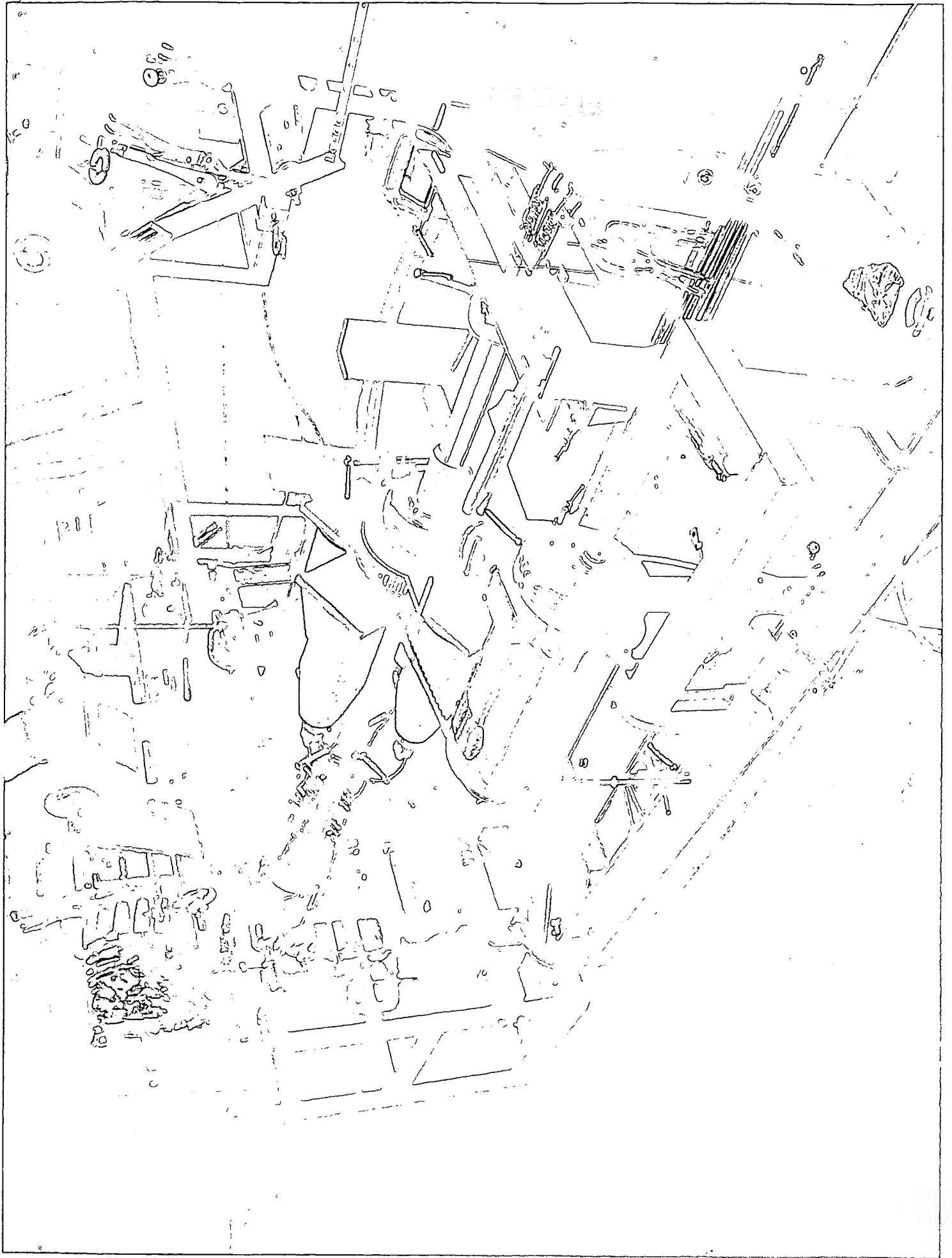


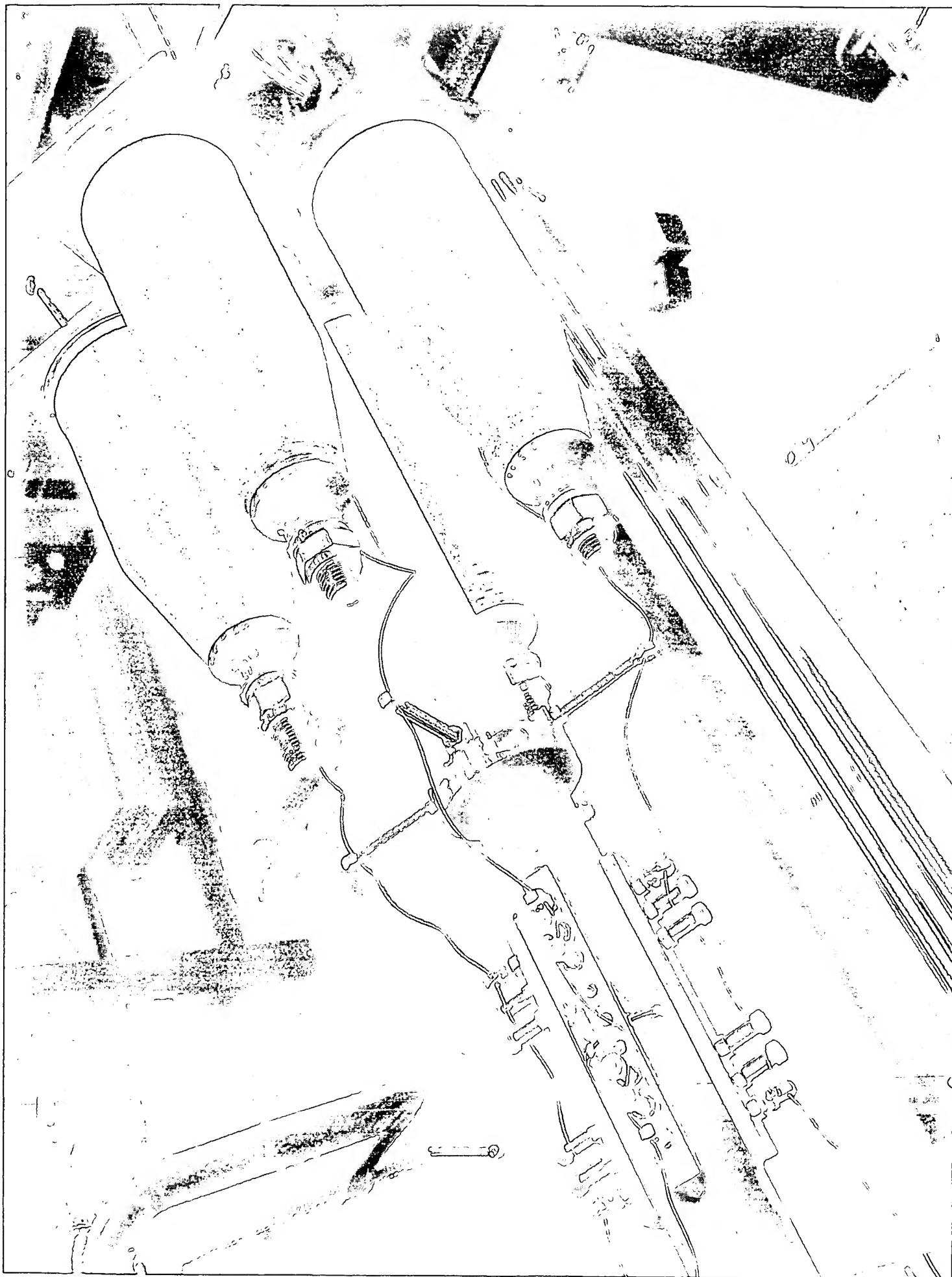
BRIAN GORDON

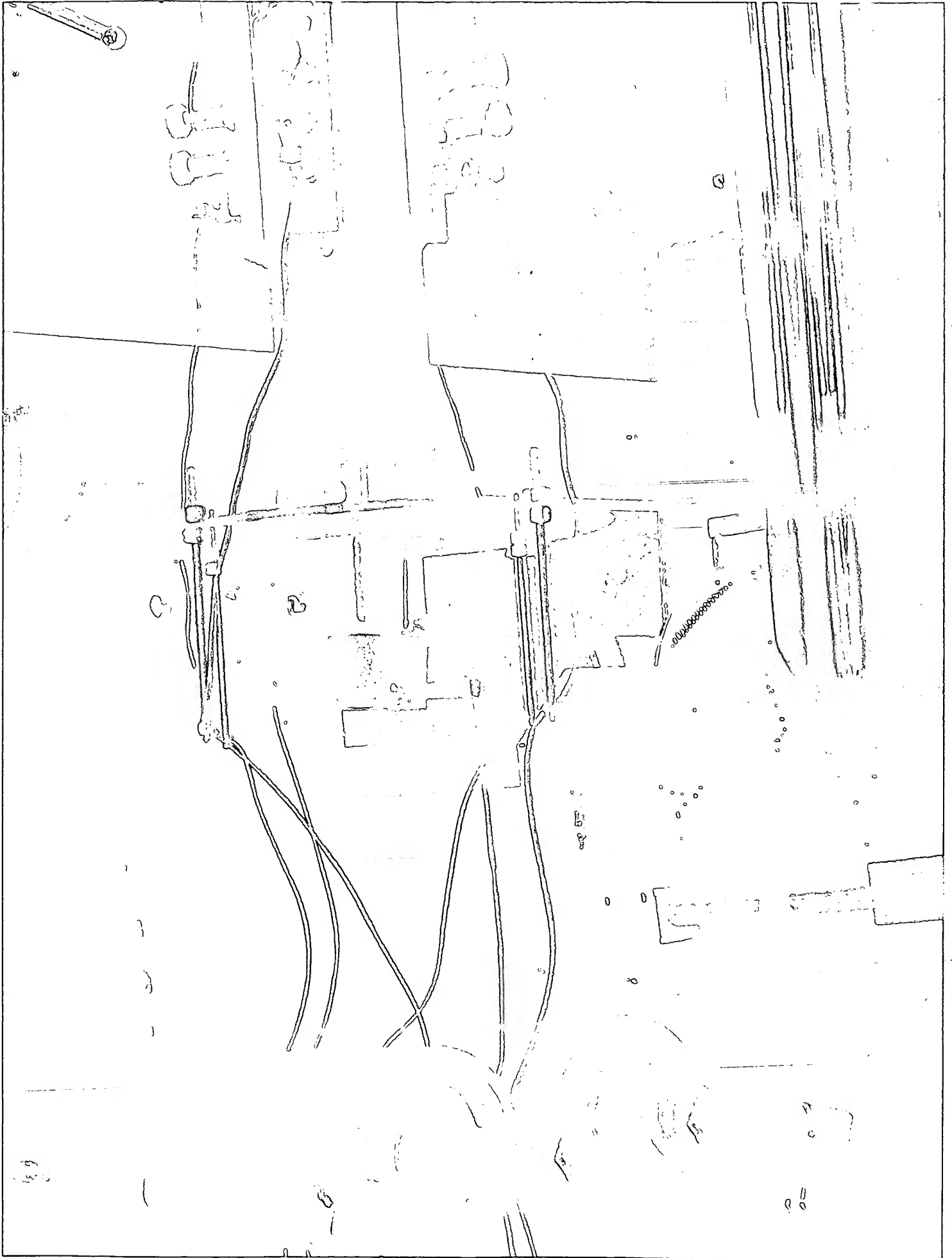
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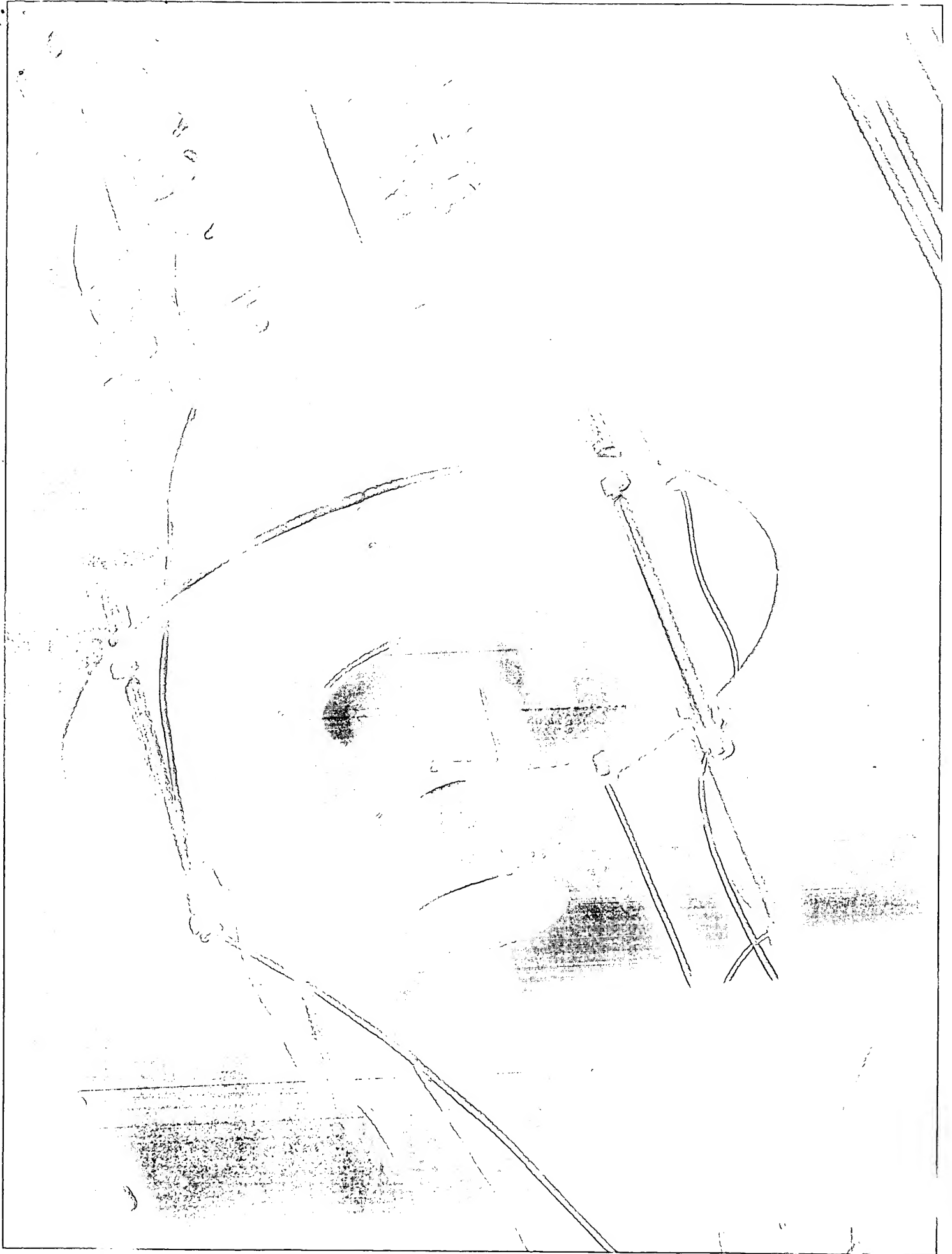
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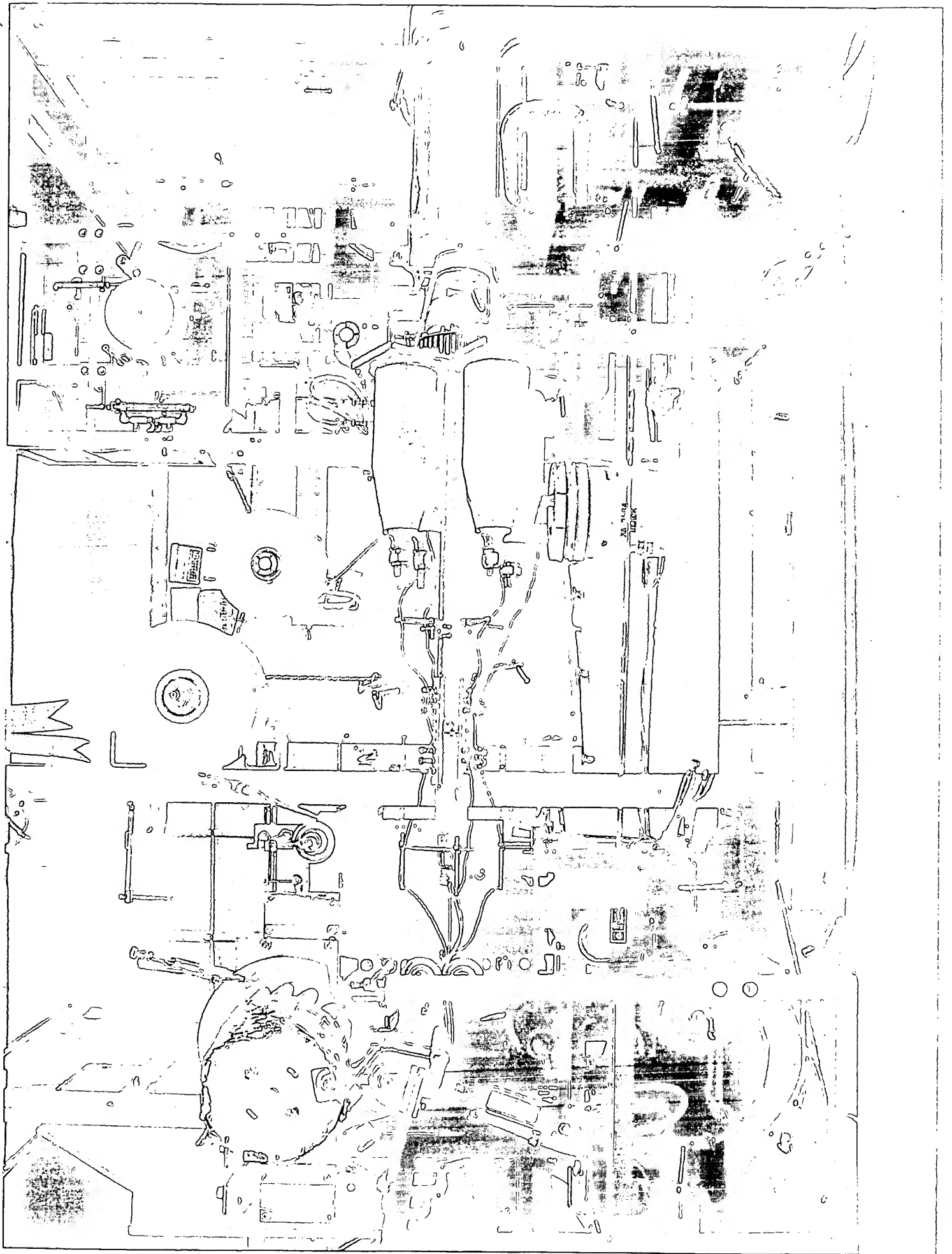
Exhibit A-1 to A-14

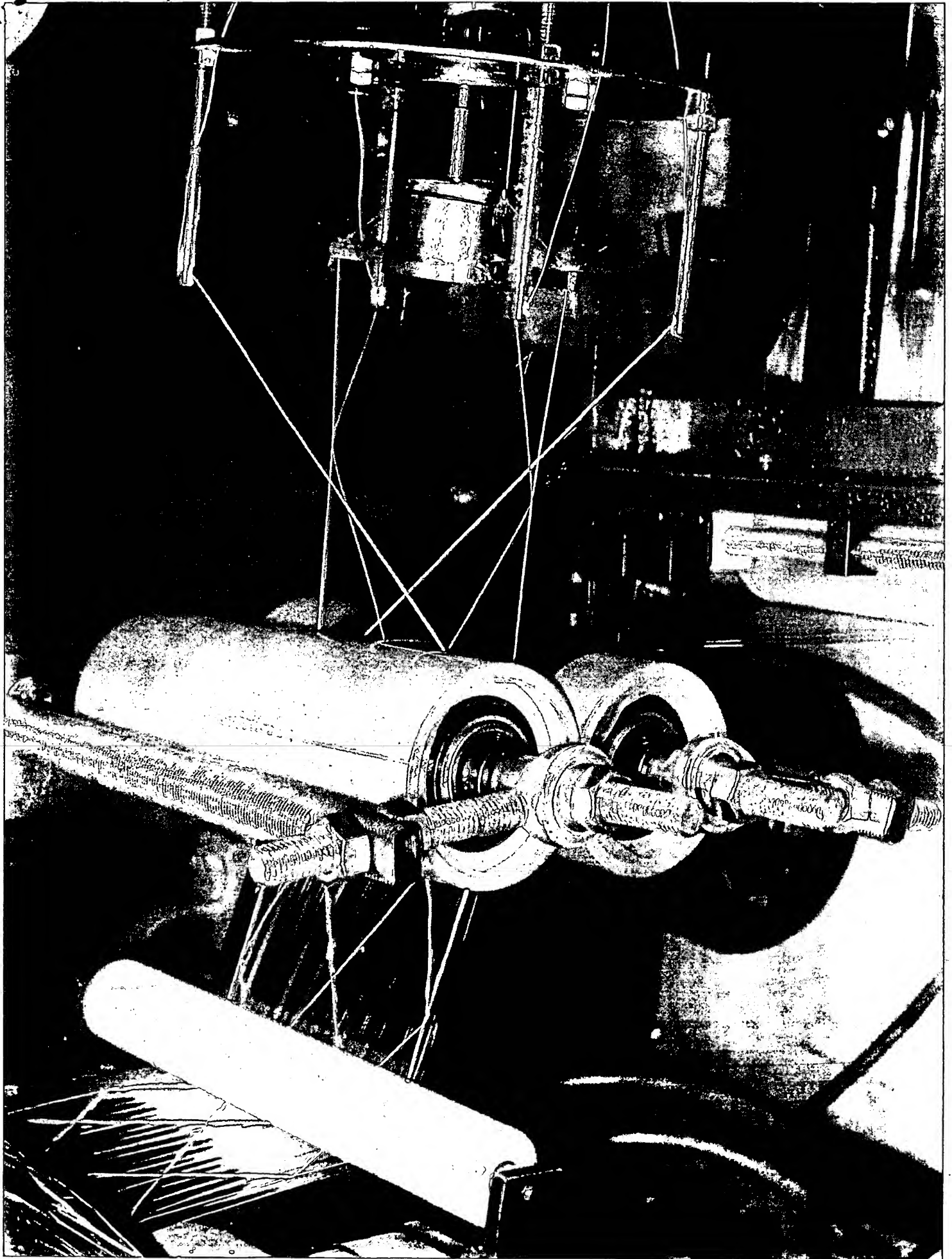


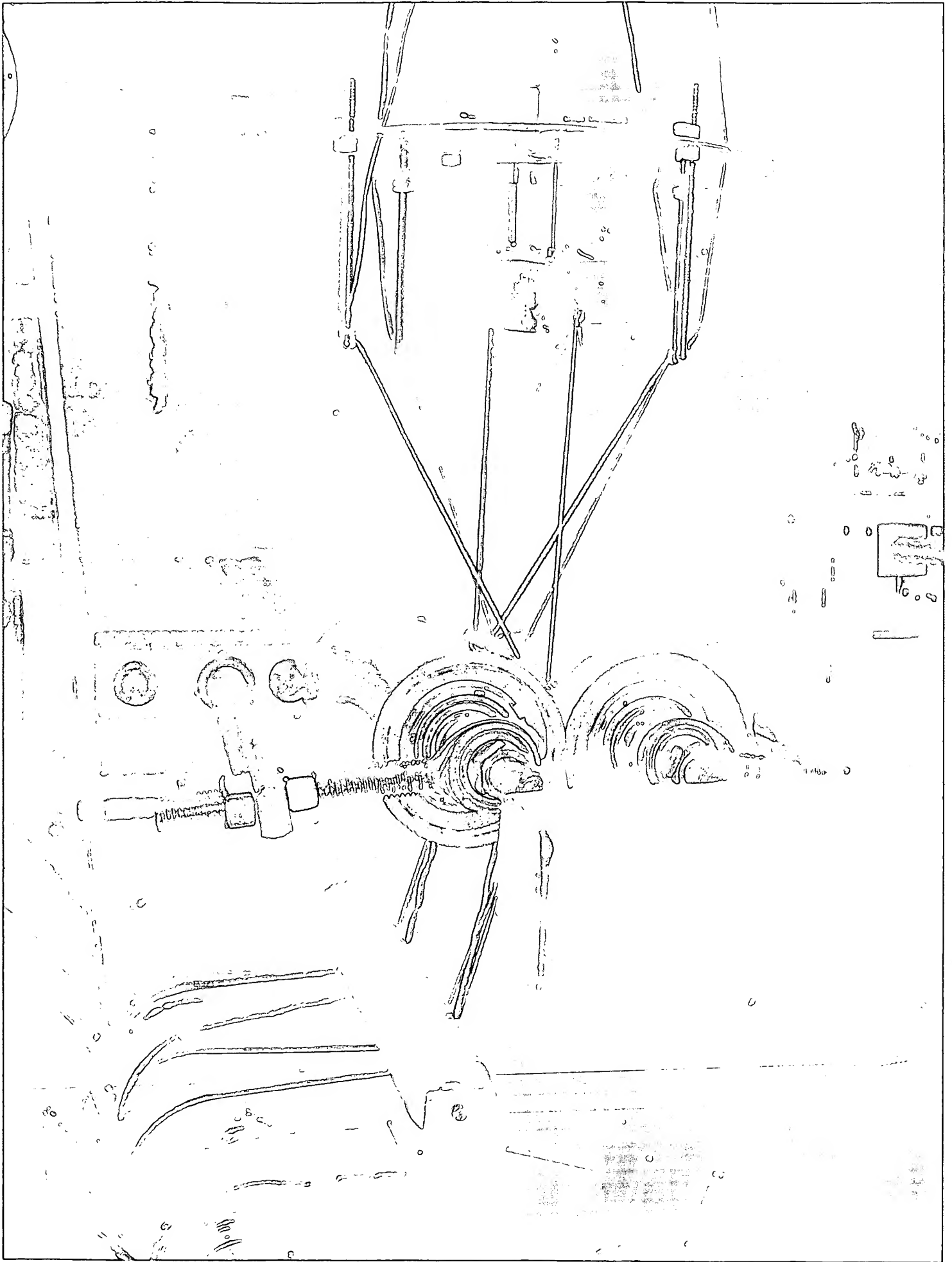


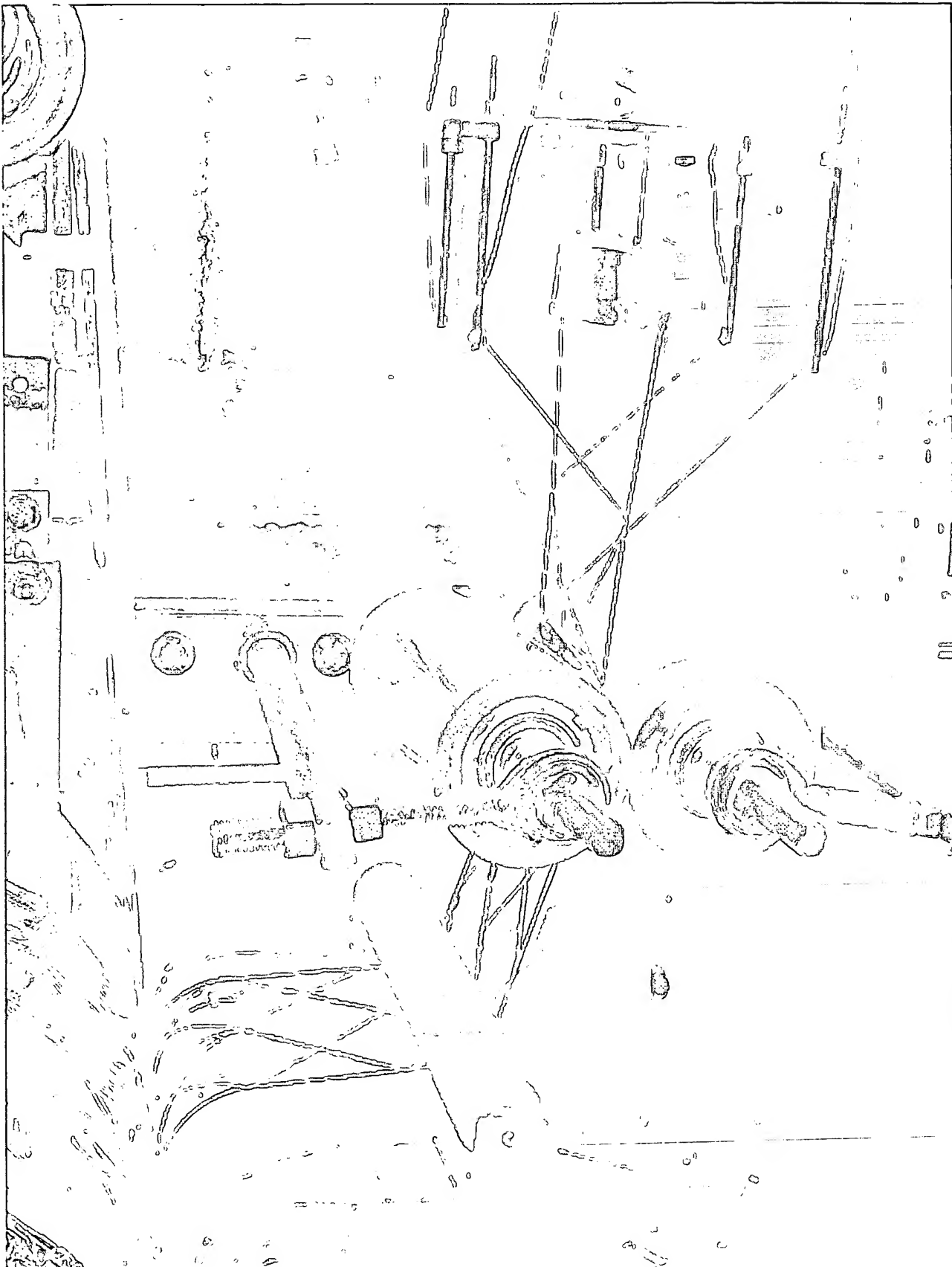




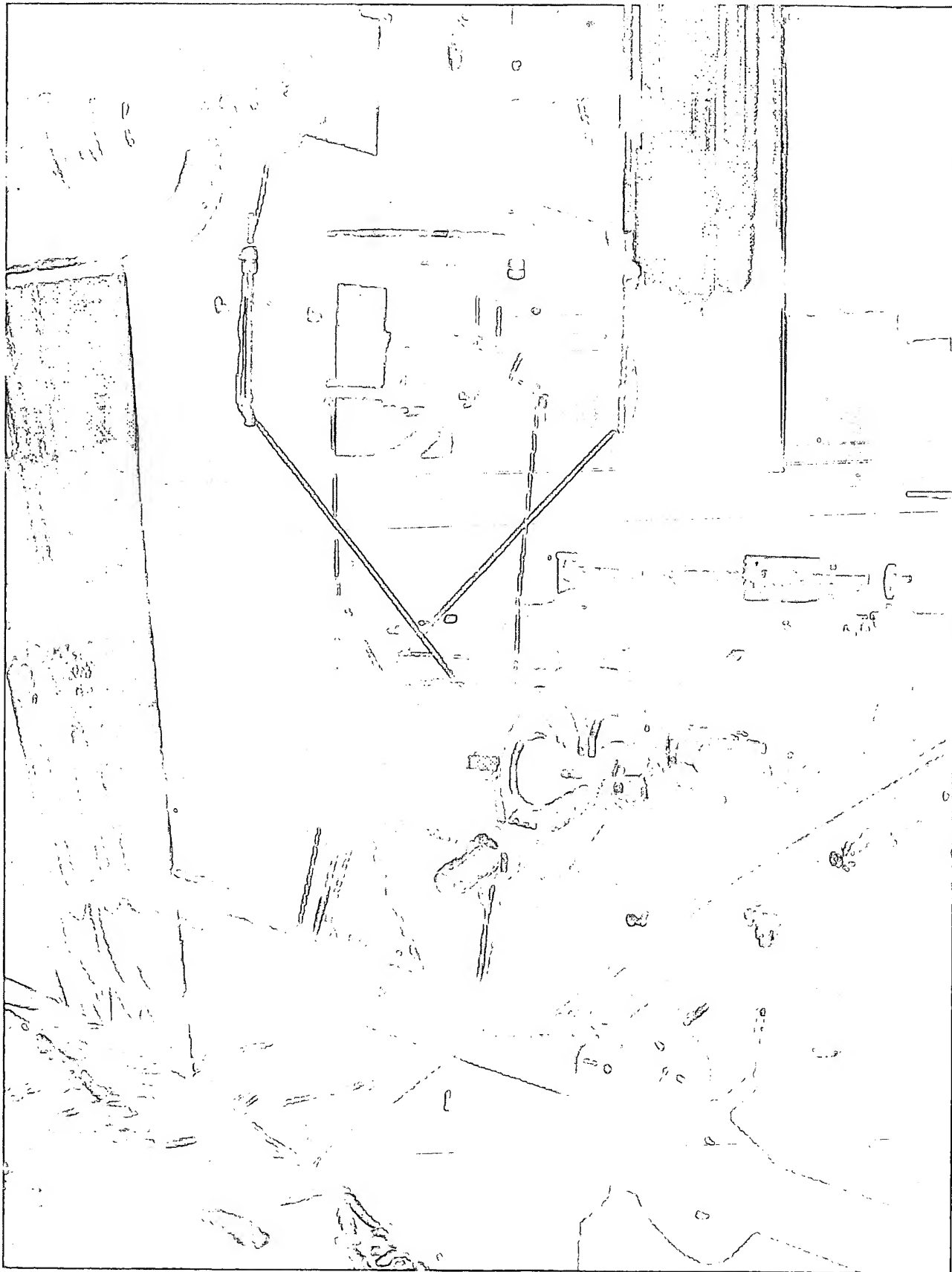


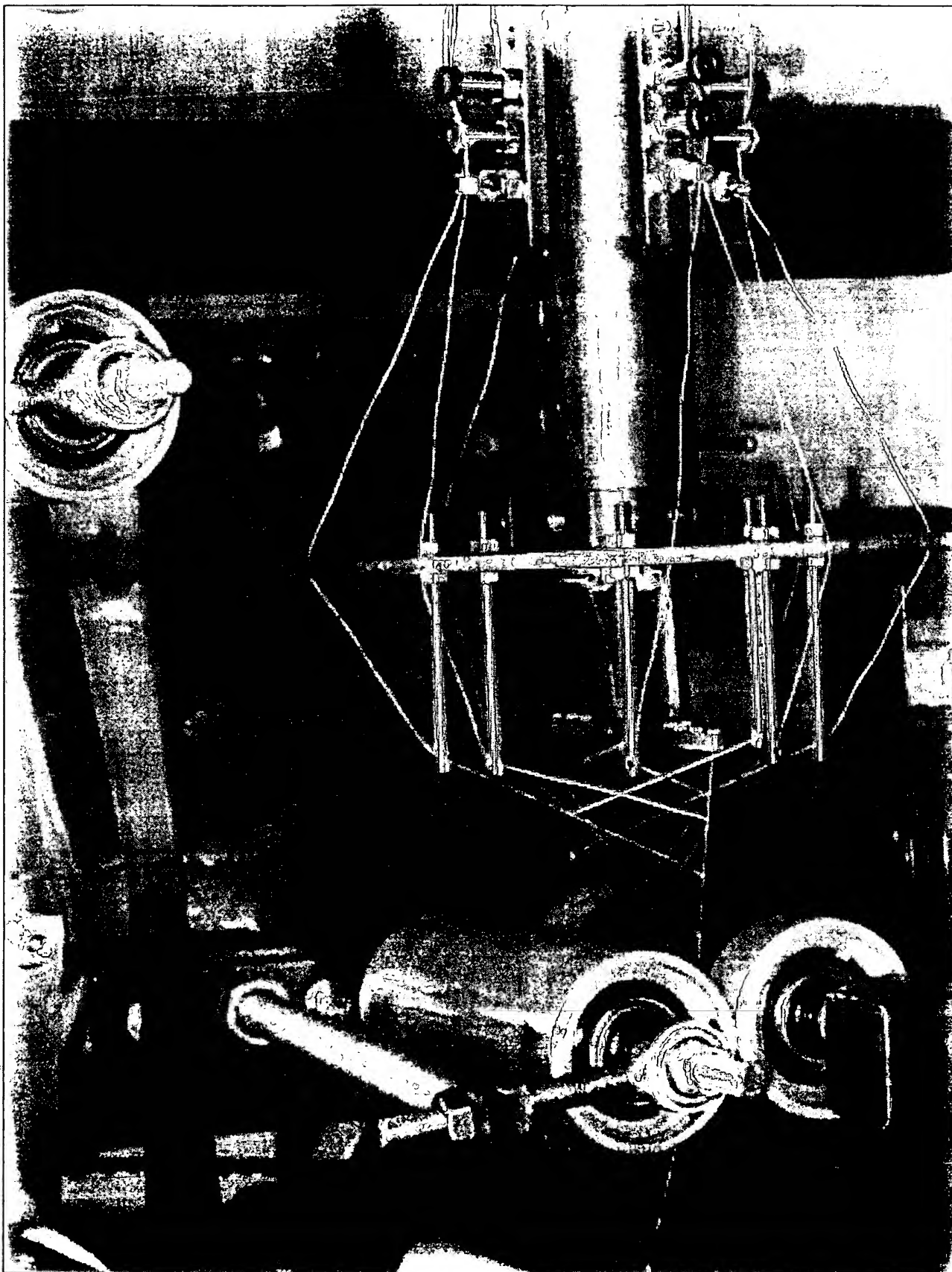


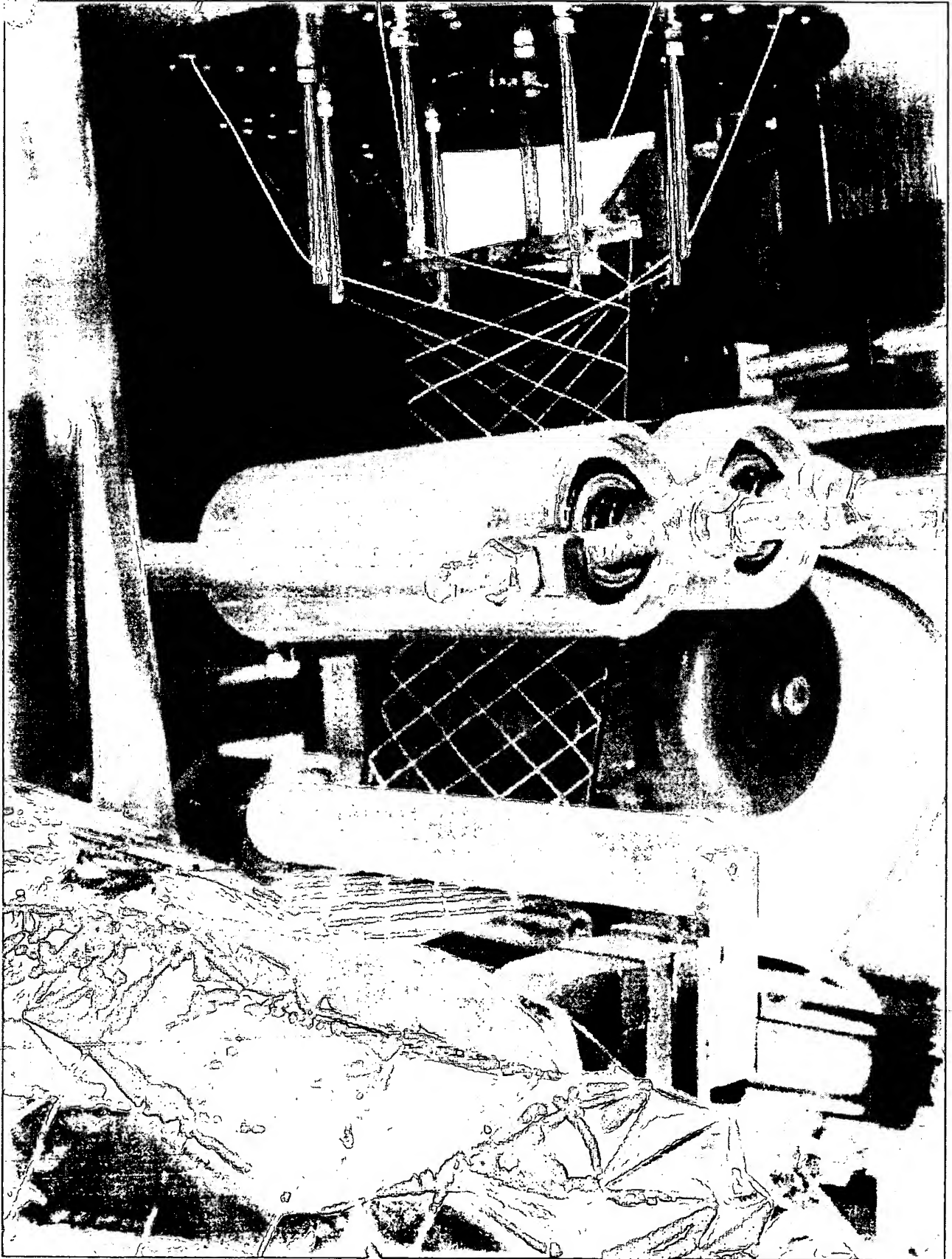




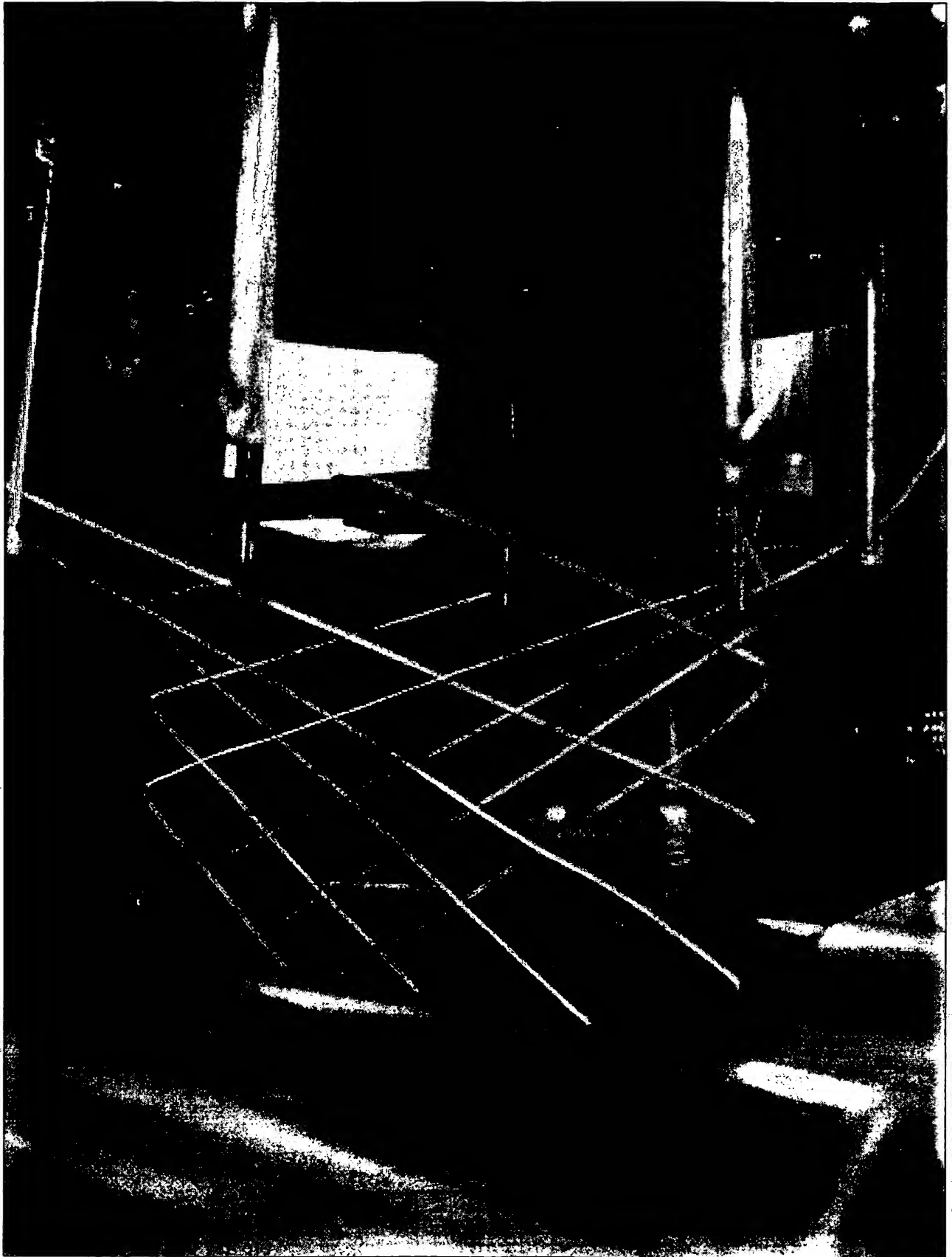












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Summary of Invention, B-1 and a series of diagrams B-2 through B-5 all made before March 3, 2003 illustrating various embodiments of the invention.

SUMMARY OF INVENTION: This invention relates to the method of applying continuously woven reinforcing yarns to an adhesive coated substrate or laminate material, the substrate or laminate material which is then in turn laminated to another substrate (coated or uncoated) or laminate material and is then used to:

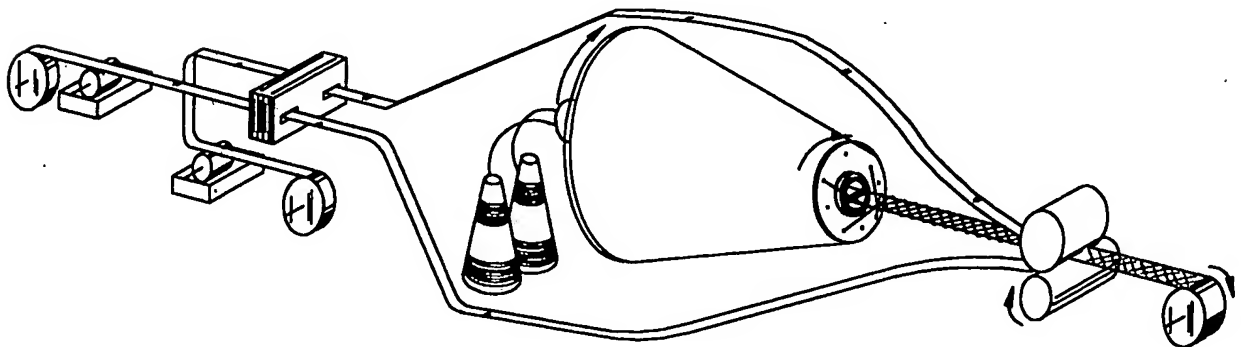
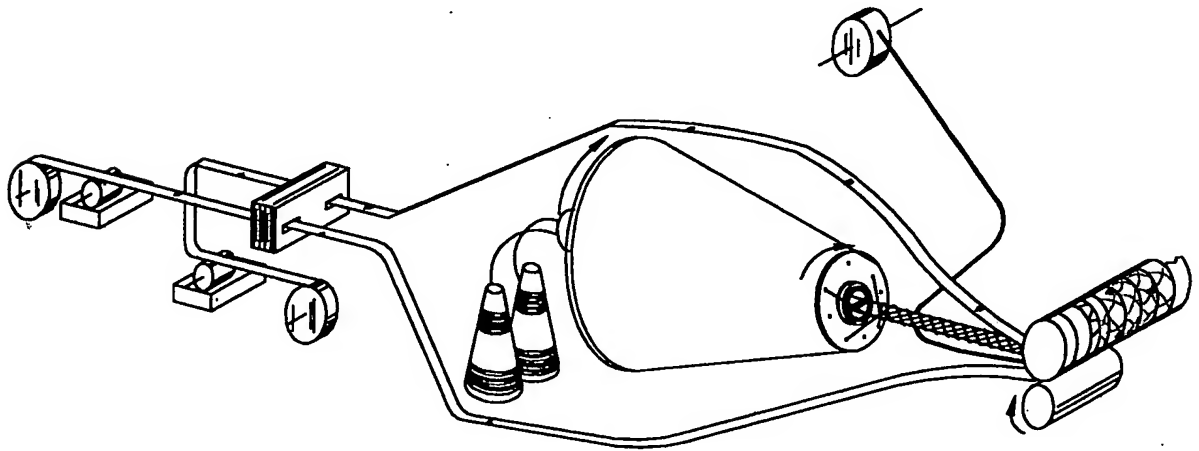
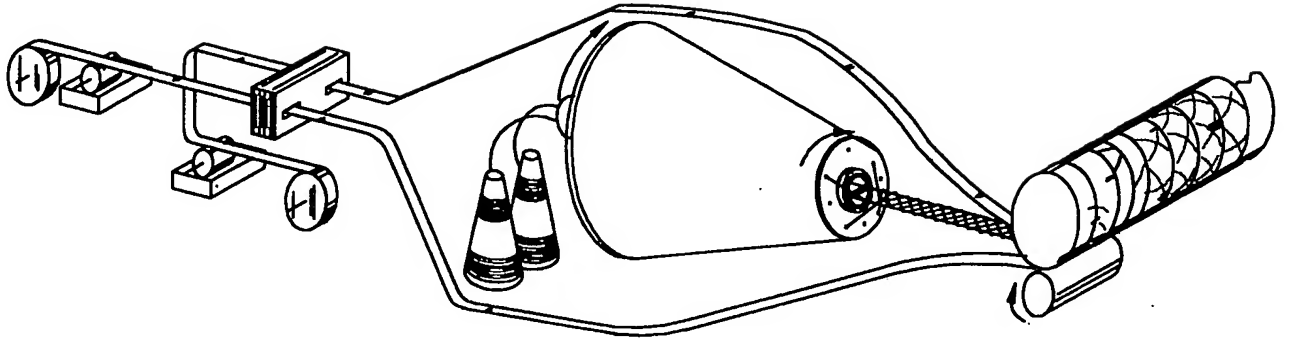
1. Manufacture narrow web reinforced laminated Flexible Duct Tape for use in making helically wound Flexible Ducting.
2. Manufacture reinforced laminated Flexible Ducting.
3. Manufacture reinforced Laminated Flexible Duct Sleaving.

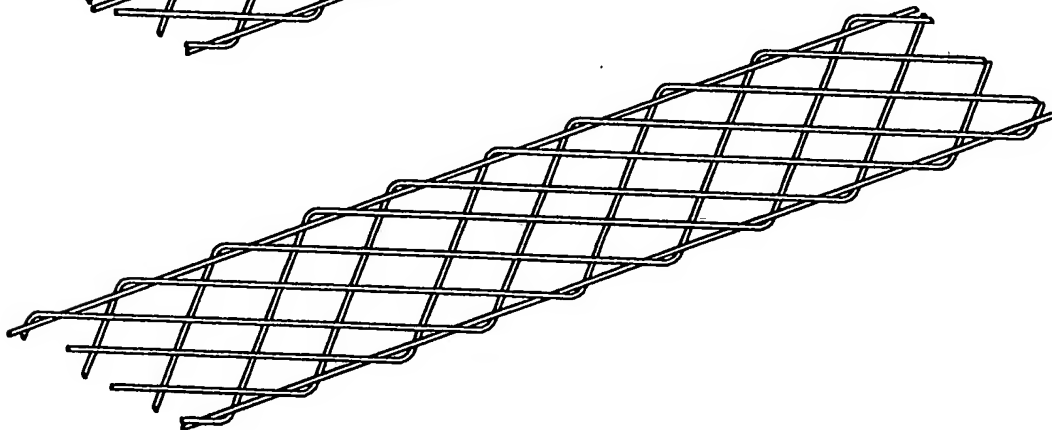
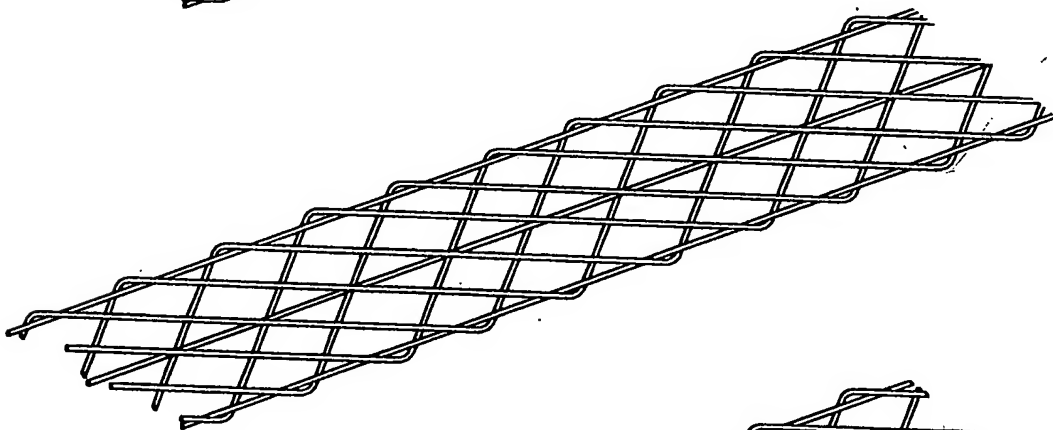
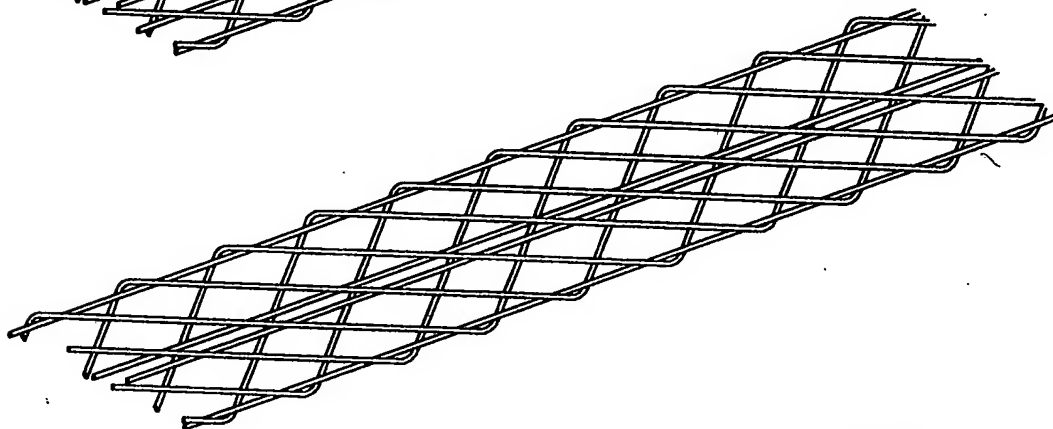
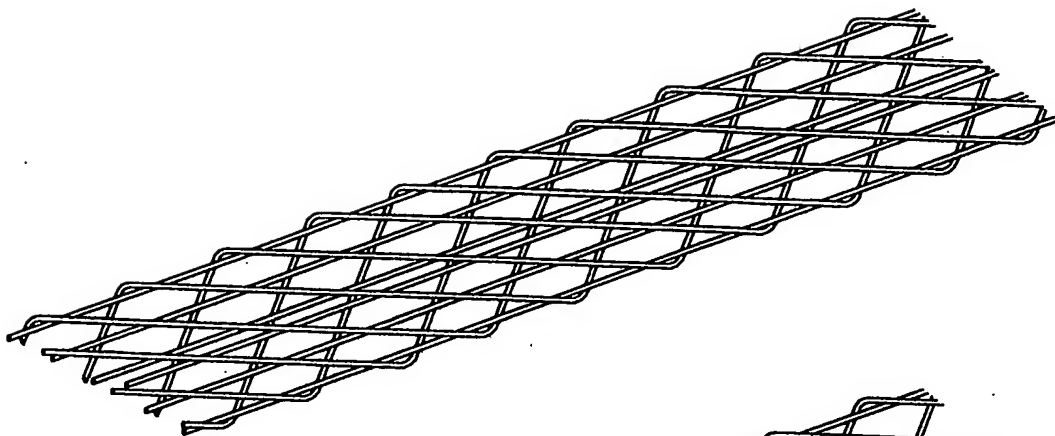
This method of continuously weaving a reinforcing yarn and then applying this to an adhesive coated substrate or adhesive coated laminate is unique. The continuously reinforcing yarn pattern can be varied in spacing, angle and is not limited to any number or type of material used for the reinforcing yarn, elements common to 1., 2., and 3 above are as follows: Web, Substrate or Laminate material is coated with adhesive which is then guided and positioned, rollers are then used to facilitate the placement of the woven reinforcing yarns onto this adhesive coated Web, Substrate or Laminate, the continuous woven reinforcing yarn which has now been placed upon the Web, Substrate or Laminate is then pulled through the machine for its designed application.

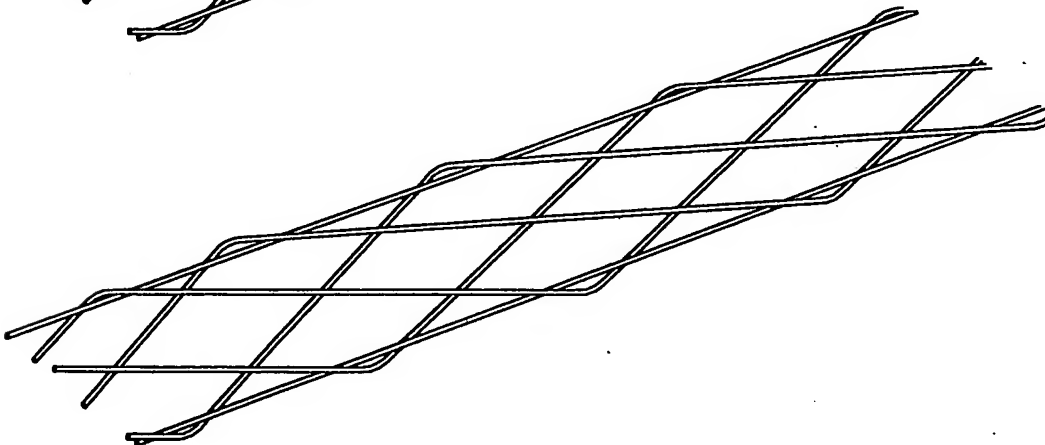
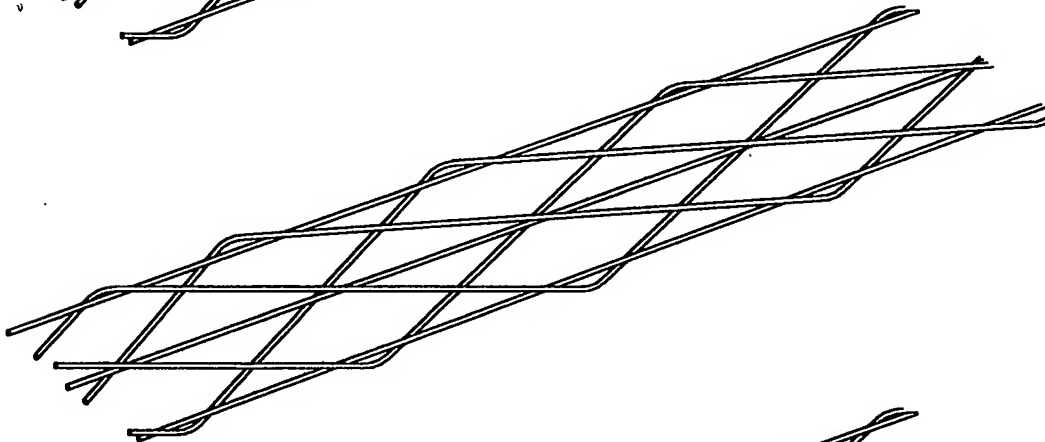
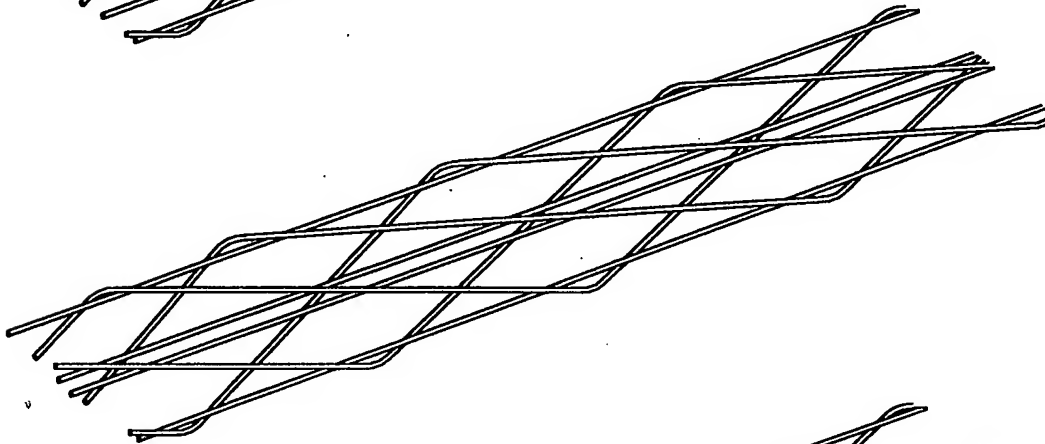
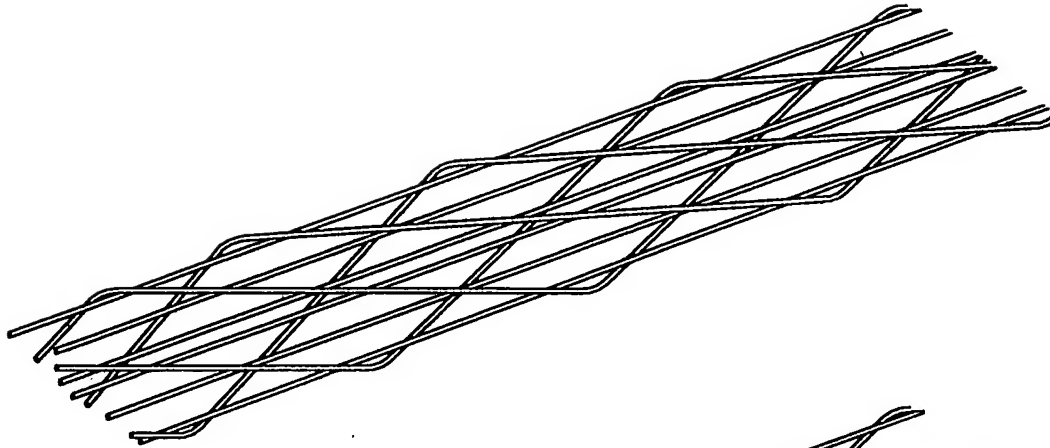
The weaving method is by carousel, reinforcing yarns mounted on the carousel rotate around a central axis, through this central axis of the carousel, **machine direction** reinforcing yarns are guided, the number of **machine direction** reinforcing yarns can be as little as two and be as many as is practical, specifically two of the **machine direction** reinforcing yarns that are guided through the central axis of the carousel and upon exit from the central axis of the carousel, these two specific **machine direction** reinforcing yarns are spaced a desired amount apart along a horizontal plane that would maintain this preferred spacing between the carousel central axis and the Web, Substrate or Laminate material guide rollers, these yarns are designated as **SPREADER YARNS**.

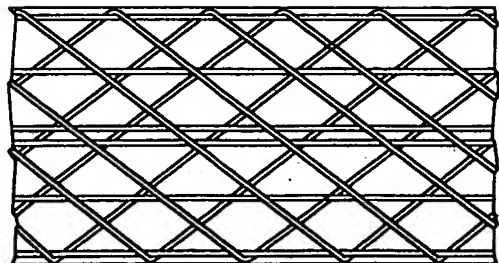
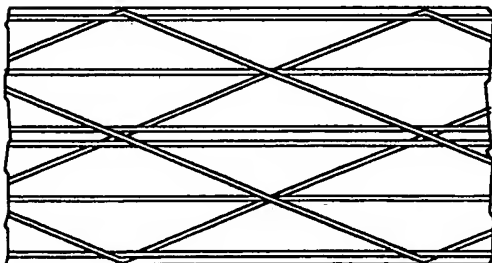
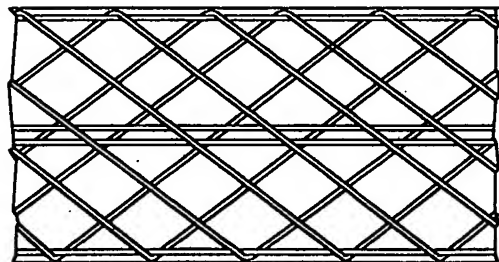
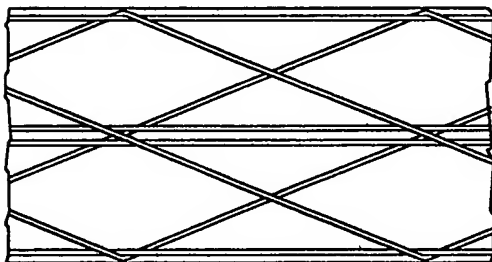
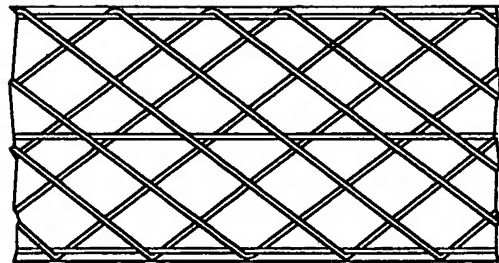
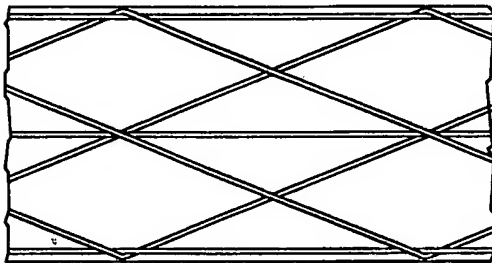
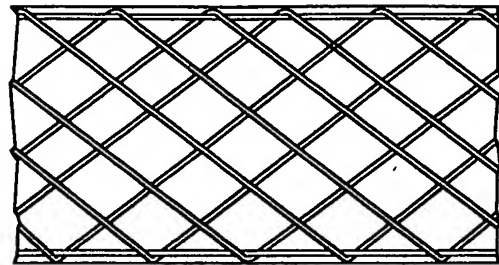
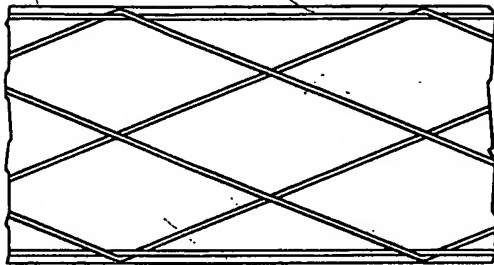
The **SPREADER YARNS** are a key element to this process, they hold and maintain the desired spacing and create an aesthetically pleasing pattern as the carousel reinforcing yarns rotate over and under them. The carousel reinforcing yarns, rotate with and are mounted firmly to the carousel, the carousel reinforcing yarns after being de-coiled pass through a tensioning device on the carousel, then they are equally spaced and guided around the **SPREADER YARNS** in a circumferential pattern large enough not to interfere with the **SPREADER YARNS**, when the carousel rotates, the pattern thus created is quite superior to present constructions in that all yarns become a component of the whole and when any particular reinforcing yarn is stressed this stress is carried to and absorbed by the other reinforcing yarns in the construction thus adding considerable strength and superior tear resistance to the entire construction.

This Web, Substrate or Laminate material that now has a continuous woven reinforcing yarn placed upon the surface is then bonded to another Web, Substrate or Laminate, these laminates would not be offset or made into a helical pattern to one another if a Flexible Duct Tape is desired, alternatively these two can be offset to each other and then formed around a device that creates a desired diameter in a helical pattern thus creating a pitch, wire is also added to create a supporting structure for Flexible Ducting, without the addition of this support the product then becomes Flexible Duct Sleaving.









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